CENTRAL INTELLIGENCE AGENCY

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	. SI	SECRET ECURITY INFORMATION			25X1		
COUNTRY USSR ()	loscow Oblast)		REPORT	·			
SUBJECT Develop in Pode	oment Activities perexye	at Zavod No. 1	DATE DISTR.	5 May 1953 21	}		
DATE OF INFO.			REQUIREMENT NO.	RD	25 X 1		
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25X1 25X1 Most of the Soviet personnel at the plant were young engineers who had just graduated. the Soviets were interested in training their young engineers at Zayod No. 1. 25X1 In the Hydraulics Department and also in other manufacturing departments there was much work Information received on the mass production of aircraft types developed at Zavod No. 1 was not credible. Engineer Friedrich Gromes learned, in a con-25X1 versation with a very pro-German Soviet by the name of Gvozder, that the EF-140 (P-140) was put into mass production in about 1950 and that the commission which visited Zavod No. 1 in mid-1950 had come from the plant engaged in the mass production of EF-140s. In 1950, Engineer Schroeder was told by a Soviet flight testing engineer that he had seen the EF-140 type aircraft flying during his leave in the east. From various Soviet statements and from the fact that, by the installation of new machine tools for draw parts, the production part of the plant was continuously being enlarged 25X1 Zaved No. 1 will probably be engaged in series production. Contradictory to this development was the installation of very expensive experimental equipment, such as the 25X1 Junkers test stands for stability tests, measuring devices for hydraulic struts, and, in 1950 and 1951, a low temperature chamber for the hydraulics laboratory. Products of a series production would probably be helicopters or another item in connection with a new plant on the Volga River. EF-140 Type Aircraft the aircraft was powered either by a Soviet-built Nene or by a similar type of engine designed by Lyulka. Between August 1950 and spring 1951, the EF-140 B was stationed 25X1 at Borki airfield, where low temperature damages to the hydraulic system, such as, fractures of the hoses and damage at the electro-magnetic switch valves, were eliminated. The control of the nose wheel also failed to function. In spring 1951, the EF-140 B was flown twice by a Soviet crew with Engineer Schroeder (fnu) functioning as test engineer. No information was received on this model after mid-1951. Model V-1 of the EF-140 was powered by the AM-2 type radial-flow tyrbojet engine, similar to the Nene, about 3.50 meters long and 1.50 meter in diameter. 2 The static thrust of each engine, measured while the aircraft was standing on a concrete platform, was 3,640 kgp. value obtained was not yet converted for standard conditions. The engines were started by compressed air taken from three containers, each with a pressure of 160 to 170 atmospheres. This amount was sufficient for one starting operation. 25X1 EF-150 Type Aircraft In early 1952, the EF-150 was completed and ready for shipment. Lukovitse, located 16 km southwest of Kolomna at the railroad line to Ryazan, was reportedly the testing field. The exact location of the field, where, in September 1951, Graduate Engineer Wolfgang Ziese crashed with the last model of the DFS-346, is not known. 25X1 the airfield was very large, was still being improved, and that a cement plant was built for the construction of the runways. At about the end of 1951, Dr. Baade hurriedly repeated the stability tests on the wings of the EF-150. It was generally assumed that, with the promise to develop increased speed of the EF-150, Baade tried to justify the delay. It was requested that the EF-150 should be ready to take off by October 1951. Even without considering the possible series production of the EF-150, the aircraft would be of great value for the Soviets as a research and experimental object. Technical elements, such as the servo-controls, the gun stations, the new type of fuel containers, and the tandem landing gear, had, thus far, not been used on Soviet aircraft. The EF-150 is a medium-size. mid-wing bomber with flat sheet outer skin, swept-back wings, and 25X1 wo turbojet engines. each engine had a thrust of 4,500 kg.4 uselage was oval in section. The part of the fuselage between the front and rear unit of the nain landing gear was utilized as a bomb bay and for fuel storage, the bomb bay taking the lower and the fuel tanks taking the upper part of the fuselage. The fuel tank, formed by a lensely riveted part of the fuselage, utilized a new method of construction. Before the parts were riveted, they were prepared with a layer of Tyokol paste (sic) and, in a special room, Light Translation of

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subjected to some kind of vulcanizing. During the vulcanizing process, the density was measured at intervals.

this was done at an interior pressure of 0.2 atmospheres. Air for the pressurized cabin was supplied by the engines. The air was ducted through a reducing valve and a thermostat which, if required, branched some air off through a cooler in the intake cowling of the engine. The thermostat kept the temperature at 80 to 85 degrees centigrade. The arrangement of the ejector seats in the cabin was not determined. Ejection was to be achieved with a powder charge. A radar blister was attached under the nose. The photographic equipment was installed in the tail, and its flaps were operated by the hydraulic system. The air brakes were automatically controlled by a governor for dynamic pressure and a machmeter. Access to the tail gunner's position was from the outside only. The tail gun mdjusted indirectly by the hydraulic system, and the seat was also adjusted hydraulically. The tail gunner was to bail out through the entrance hatch, which was to be opened hydraulically in the direction of flight. There were suspension devices for Rato units at the sides of the fuselage.

The servo-control system of the EF-150, based on oil as the hydraulic liquid, included the following elements: the control block under the cabin floor with control stick, slide valves, servo-motor and the two-stage gear shift, the transmission shafts, the universal joints, the hevel gears, and the spindles. The servo-control system functioned as follows: the deflection of the control stick was transmitted to the slide valves, which were similar to FA-15 type slide valves. The oil flow, thus directed through the slide valves, drove a servo-motor which in turn transmitted the rotations via a two-stage gear to the transmission shafts and further to the rudder assembly. Here rotary motion was converted by spindles to a longitudinal motion which was transmitted to the rudder to be controlled. At a certain moment of rotation, the two-stage gear shifted automatically directly from first to second gear. Tests of the control system at the special test stand revealed difficulties with the spindles, which corroded the thread between the spindle and the nut. It was difficult to determine the most advantageous degree of effectiveness of the spindles (n-0.42). A six hp German servo-motor made by the Askania Plant was used because the construction of a new serve-motor was hampered by the lack of materials.

The EF-150 was equipped with a retractable tandem-type landing gear under the fuselage and retractable outrigger landing gears under the engines. A modified version with the main landing gears installed in the engine natelles existed only as a dummy.

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Possible it was planned to have only one wheel of a larger diameter on the rear. lic retracting gear worked on the basis of retracting cyclinders. With the landing gears extended, these cylinders were hydraulically (not mechanically) locked by blocks. For the take-off, the rear unit of the landing gear was to be retracted slightly. All units had pneumatic shock absorber legs. The main landing gear had three-chamber type absorber legs. The absorber legs of the outrigger landing gears had two chambers inclosed in a third one, which was to function as a retracting strut. The folding mechanism was not known. The shock absorber leg of the rear unit worked on the basis of the following inflation pressures: Chamber A about 230 atmospheres, chamber B about 175 atmospheres, and chamber C about 80 atmospheres. These high inflation pressures, and the fact that, during the filling process of the individual chambers, the piston had to be retracted behind the pertaining filling hole, required a device capable of producing forces up to 70 tons. The seal between the individual chambers and to the outside was achieved by four rubber cups, two of them sealing to the outside and two sealing against the interior. Tests revealed that these shock absorber legs did not meet the operational safety requirements. The poor surface quality (the material was only ground and not honed) and the poor quality of the rubber cups caused leaks even after a short period of operation at the test stand. Furthermore, the inflation pressure could not be controlled while the unit was in operation. Because of all these failures and the difficult pattern of the unit, the shock absorber legs were to be used only for static tests. It was required that a new type leg with access to the chambers from the outside be developed.

The fuel system in the wings and the fuselage of the EF-150 was entirely different. The wing containers were made of rubber, while a part of the fuselage body was utilized as a fuel tank. For safety reasons, this part of the body was filled with numerous small tubular fuel containers. The tank was refuelled. The space between the tubular containers was filled through an aperture in the bottom of the tank. Simultaneously, fuel was directed into the tubes itself through filling holes in their bottom. Each fuel tube had about 20 filling holes four mm in diameter.

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The air escaped through a hole about two mm in diameter in the lid of the tube. The tubular containers were arranged on a pipe system through which the fuel was tapped, and they were connected to these pipes by bayonet fittings which were stuffed by a rubber ring. When fuel was taken from the tank, first the space between the tubes was tapped through the container bottom. The sinking fuel level outside the tubes caused a difference of pressure inside and outside of the tubes. Thus, the annular rubber plates were pressed to the bottom of the tubes and prevented the fuel from escaping throughtthe filling apertures. As soon as the sucternal space was emptied, the system switched over, and fuel was bled from inside the tubes through the pipe system. This system included the following two safety devices:

- a. In case a tube should be damaged below the fuel level, the rubber plate in the fuel exit seals the two reinform (sic) spertures, preventing the estape of fuel from the tubular containers through the damaged tube.
- b. If a pipe should be damaged, the check valves in each junction of a pipe with the main fuel line prevents the escape of fuel from the tubes connected to the other pipes. It was not possible to protect the fuel system in case the main fuel line should be destroyed. Gun fire on test models of the fuel system proved the basic functioning. However, in several cases the rubber plate which was to seal the two reinform apertures was sucked into these holes or it had entirely slid over the knob and had disappeared into the interior of the tube. The reason for this failure was not determined at that time, but it was assumed that the pressure or suction was caused by exploding fragmentary ammunition. It was still undetermined how the annular rubber plate, which sealed the filling holes in the bottom of the tube, would function under conditions of vertical acceleration, as in the case of a sudden squall. No pertinent tests were planned. When the fuselage fuel system was subjected to a State test, the result was declared "not bedd". Each wing was equipped with two rubber bags of different sizes. They were suspended from the upper side of the wing by means of studs. The bags, which were apparently unprotected, were made of four mm thick rubber with plies of fabric.

The EF-150 was equipped with an emergency generator for the hydraulic system. This generator was to operate in case the oil pumps driven by the engines should fail. This unit was composed of a shaft which was unfolded from the fuselage and had a Seppeler-type propeller and an oil pump at its end. The hydraulic oil was fed to the pump (Schwonklager) through the hollow shaft. The oil pumps, probably of type HW - 14, were tested in the laboratory with hydraulic oil and also with jet fuel, because it was planned that lost oil should be substituted for by fuel. Satisfactory results were obtained from a 40-hour continuous test run with oil and a following four-hour test run with fuel. The hydraulic main system included the average components such as gear pumps, high pressure filters, electro-magnetic slide valves, hydraulic retraction struts, automatic pressure governors, blocks, and high pressure relief valves. The switching scheme of the hydraulic system magraotuknownlie The spumps had a throughput of 80 liters per minute and an operational pressure of 100 atmospheres for most units to be adjusted and a pressure of 30 atmospheres for the operation of the camera flaps. With regard to the nigh throughput and the difficulties engaged in the production of new big electro-magnetic melide valves, the hydraulic system was based on two oil cycles. One of these cycles was, by means of old German type electro-magnetic slide valves, eight mm in diameter, to control the new slide valves, 10 to 12 mm in diameter. Units to be operated hydraulically included the Landing gear retracting mechanism, the rudders, the landing flaps, the steering of the nose wheels, the control of the gun stations, the bomb doors, the camera flaps, the air brakes, the adjustment of the tail gunner's seat, and the opening of the tail gunner's emergency exit.

The de-icing system of the leading edges of the wings and the tail assembly of the EF-150 was based on a warm air heating. Heated air at a temperature between 250 and 300 degrees centify grade and at a pressure of four atmospheres was fed from an undetermined part of the engines and directed through a reduction valve which reduced the pressure to 0.4 atmospheres. At the entrance to the heating channel the air is directed through an injector nozzle dragging along sold air.

leconstruction of the ME-262 Type Aircraft

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The aircraft was obsolete and was only utilized for experiments with the tandem landng gear.

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Miscellaneous Other activities at Zavod No. 1 between mid-1948 and mid-1949 included the production of a small series of pulse jet units and fuel containers for the V-1 missile. Technical data and the output were not determined. From mid-1949 to fall 1950, Zavod No. 1 produced parabolic mirrors of perforated sheet metal. These mirrors were shipped on special trucks with trailers. The total output of mirrors amounted to three series of 30 units each. The production of parts for helicopters was started in spring 1950 and was increased continuously. The parts produced at the plant included tails, supports for the rear propeller, shock 25X1 absorber legs, and struts. parts were produced for Mikhail Mil type, a helicopter somewhat similar to the Sikorsky type. Large quantities of draw duraluminum parts, slightly bent and 60 x 120 cm large, were manufactured in 1950 and 1951. The products were trucked away, reportedly to acrew plant located on the Volga River. Zavod No. 2 in Upravlencheskiy, near Kuybyshev. 25X1 some German experts were still there in early 1952. On 15 September 1951, test model V-3 of the DFS-346 broke apart in the air during a supersonic flight. Pilot Ziese bailed out and landed, suffering minor fractures. Details about the accident and the 25X1 reason were not known to source. aircraft types: Type-9, Tu-4, MIG-9, and one four-jet aircraft. similar to the the 25X1 This aircraft was said to be the competitor of the EF-131. Type-10. aircraft referred to as a Type-13 in reference report was actually a Type-7 rather than a the Me-263 Type-13. the power unit had an exhaust flame of a soft reddish color. The reconstruc-25X1 ted test stand for ejector seats of the Heinkel firm was in operation. Source confirmed the unfair and unconsidered rivalry fight of the Soviets against the testing of the EF-131 and charged the same persons for the careless shipping of the EF-131, which arrived at Moscow/ Salarevo (Teplyy Stan) airfield in a damaged condition. 25X1 Moscow/Salarevo (Teplyy Stan) airfield Aircraft stationed at the field included 40 to 60 La-9s or La-11s and 40 to 25X1 the jet aircraft was 60 jet aircraft of an unidentified type. 25X1 not a MIG-15, but rather a type of aircraft with a stepped fuselage. The assembly was done outdoors under extremely primitive conditions without a crane and with- 25X1 out a telephone connection with Zavod No. 1. There were only some jigs available. Because of the lack of assembly facilities and because of the damages which the aircraft suffered during the shipping, three months were required to assemble the plane. The courier plane between Zavod No. 1 and Moscow/Salarevo airfield was a U-2. After the EF-131 had been reassembled 25X1 Following two months of conferences, the test flight was started on 1 August 1948. The Soviets probably intended only that the test flight should be postponed. Ziese was at Moscow/Salarevo airfield for test flights with model V-1 of the DFS-346. The plane was damaged twice, once when it was towed into the air and the other time when it landed after it had been towed. The extensive repair work lasted until March 1949. 25X1

Soviet materials: (Rússian characters)

A very resistant duraluminum with a thick soft plating; the material was used A 16 T on the EF-150.

A material similar to pantal (sic).

An annealable steel with a strength of 120 to 150 kg. 30 XFĈA

sq mm for parts of landing gears. 30 XFC

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C 10 A soft steel with a strength of about 40 kg/sq mm. C 20 A soft steel with a strength of 60 to 80 kg/sq mm. C 10 and C 20 type steel were not used on aircraft but for plant installations. MB /71960 A hydraulic oil used for the EF-140. At a temperature of 30 degrees centigrade, the oil turned thick, similar to honey. Some damages to the hydraulic system of the KF-140 B were charged to the poor quality of this oil. Tsiatin (phonetic spelling) A hydraulic oil used with the EF-150. It had a reddish color and was treated as very secret material. It was already transferred from the original cans hate blank cans at the depot. The Bashta (also reported as Batchta) Institute was similar to the development plant of a chief designer. It was engaged in all kinds of developments in the field of hydraulic systems and hydraulic devices. Several small producing plants in Moscow were subordinated to the Bashta Institute. The Soviets had little experience in the field of hydraulics. Accessories, slide valves, magnetic valves, or limit switches (Begrenzungsschalter) could not be produced; they had to be constructed by the German engineers themselves. The hose accessories (Schlaucharmaturen) were standardized before 1949. Source believed that, by early 1952, the Soviets should have reached the 1945 status of German developments. The Moskovskiy Kauchuk (Rubber) Factory No. 3 produced hydraulic hoses after the system of the German Argus type hoses. After the Soviets had failed to develop a system of their own, they adopted German construction methods and achieved compressive strength at temperatures down to 50 degrees centigrade below zero. the new plant on the bank of the Volga River, three km southeast of Zavod No. 125X1 25X1 No radar sets were noticed on the locks of the Volga River, and nothing was known about radar experiments with boats on the reservoir. Two completely rusty construction cranes standing at both sides of the lock were probably mistaken for radar sets. A similar error of observation was determined inside the plant, where parabolic mirrors were mistaken for searchlights 25X1 25X1 Comments According to a previous report, the production of spars for the P-140 met with difficulties: 25X1 This might have been one of the reasons for the Soviets abandoning this project. Besides, the requirements of a light bomber are satisfied by the IL-28, which at that time was probably already test-flown. 25X1 the AMTKRD-2, abbreviated AM-2 or M-2, was an axial-25X1 flow engine, similar to the Jumo-Ol2: 25X1 some MIG-15s at Borki airfield were already powered by M-2 type engines. Since MIG-15s are assumed to be powered by radial-flow engines and because in the present report the M-2 is again reported as a radial-flow turbojet engine, the AM-2 is considered to be confirmed as the power unit of the improved version of the MIG-15. According to a previous report, the new test airfield was referred to by the name of Lyubichi; see SO-92807. Lyubichi and Lukovitze are located about 15 km apart. It is believed that one and the same airfield is concerned, which probably is located between Lyubichi and Lukovitze. The German aviation magazine Die Flugwelt IV, No. 9, dated 1 September 1952, published data on the EF-150, including the following dimensions: Length 28.5 meters, wing span about 30 25X1 meters, and height 7.5 meters. as far as he could remember, none of the dimensions could have been more than 30 meters. It was a difficult problem to get the assembled plane, which was to be loaded on two boats, one beside the other, through the lock, which was about 30 to 35 meters wide. the data published in Die Flugwelt 25X1 are probably correct.

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Attachments: 12 (State-4, Army-10, Navy-4, Air-4, ATIC-2, OCD-14)

- 1. Location sketch of Zavod No. 1 in Podberezye.
- 2. Layout sketch of Zavod No. 1. (For legend, see page 17)
- 3. Organizational chart of Zavod No. 1. (For legend, see page 19)
- 4. Development chart of various EF-type aircraft at Zavod No. 1.
- 5. Sketch of the EF-150.
- Sketch of the EF-150.
- 7. Sketch of the EF-150, shock absorber and fuel tank system.
- 8. Sketch of the tubular fuel container and the slide valves of the hydraulic system of the EF-150.
- 9. De-icing system of the EF-150.
- LO. Sketch of a parabolic mirror.
- Il. Sketch of draw aluminum part.
- L2. Location sketch of Moscow/Ramenskoye and Moscow/Salarevo (Teplyy Stan) airfields.

annex: List of Personnel of Zavod No. 1, OKB I (pp. 8-16)

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ANNEX

List of Personnel of Zavod No. 1, OKB I, Status January 1952

Plant Directors

1. Major General Abramov (fnu), in 1946

Chief Engineer Rebenkov (fnu), replaced Abramov

Smirnov (fnu), was director until fall 1950

Lisitsin (fnn), until summer 1951

Belilovskiy (fnu)

There was no plant director by the name of Alekseyev. However, Chief Designer Alekseyev was assigned to the plant in 1948 and 1949 as a Soviet counterpart to Baade and Roessing.

Main Control Office, OTK

2. The name of the Soviet chief was not remembered.

The German personnel included:

Engineer Otto Herzog

Engineer Otto Richter

Electrician Kurt Moosbach

Director in Charge of the Plant Security

3. Stankevich (fnu)

Personnel Advisor of the Plant Director for Problems Involving the German Personnel

4. Ivanov (fnu)

Chief Personnel Section

Kuznetsov (fnu), prior to January 1952

Business Director

6. Petr Pavlovich Smirnov

Chief of Flight Tests

7. Colonel Klimovitskiy (fnu), prior to the fall of 1947

Slutskiy, Aleksandr Yakov

Pilot Karl Treuter

Pilot and Graduate Engineer Wolfgang Ziese

Erhard Szucka, foreman

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Chief Technologist

8. Lazarev (fnu), Soviet

Chief Finance Department

9. Krupskiy (fnu)

Department for the Construction of Jigs and Fixtures

10. Engineer Heinz Riek

Engineer Gerhard Stollberg

Foreman Ernst Westerhelwig

Reimer (fnu)

This department was subordinated to the chief technologist.

Chief Designers of OKB I

11. Graduate Engineer Brunolf C. Baade

Engineer Fritz Freitag, German deputy of Baade

Obrdbate(fnu), Soviet deputy of Baade

Graduate Engineer Walter Ballerstedt, Assistant Graduate Engineer Boris Mindach, assistant Chief Translator

12. Engineer Bruno Marx and wife

Translation Section

13. Miss | Nelly Heissler

Miss Inge Scheller

Department for Aerodynamics

14. Graduate Engineer Georg Backhaus

Graduatee Engineer Karl Mix

Graduate Engineer Heinz Kornmueller

Graduate Engineer Georg Schuhmann

Miss Irmgard Riedl

Drafting Office

15. Graduate Engineers Hans Wocke

Losch (fnu)

Hermann Schmidt-Stiebitz

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Wind Tunnel

16. Engineer Dr. Kuno Strauss

Engineer Paul Jaensch

Mechanic Horst Baer

Flutter Department

17. Engineer Theo Schmidt

Assistant Master at a Secondary School Richard Raff

Assistant Master at a Secondary School Sepp Wacht

Mathematician Siegfried Schilling

Testing Department for Engines

18. Graduate Engineer Boris von Schlippe, prior to summer 1951. After this time there was no more work for the department.

Development Engineers

19. Engineer Erich Wolff, for the P-131 and the P-140

Engineer Erich Wessel, for the P-126

Engineer Jakob Theobald, for the P-150

Laboratory for Hydraulic and Mechanical Experiments

20. Graduate Engineer Paul Keller

Ivenov (fnu), his Soviet deputy, who was transferred to the Bashta Institute in late 1951.

Graduate Engineer Werner Hempel

Engineer Hans Kober

Gnaduate Engineer Fritz Kramer

Engineer Willi Lehmann

Engineer Ernst Rieck

Engineer Guenther Schroeter

Engineer Hans Stechert

Graduate Engineer Helmut Stegbeck

Engineer Rudolf Ulrich

Department for the Procurement of Technical Materials

21. Engineer Paul Bayer

Aircraft Mechanic Paul Koelling

Clerk Bruno Voelker



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Liaison Office between the Construction Offices and the Producing Plant

22. Engineer Karl Cottin

Engineer Karl Lange

Regineer Fritz Winkler

Watter Wogeck

Department for Wing Constructions

23. Engineer Fritz Freundel

Subsection for Wing Constructions

24. Engineer Franz Strobel

Engineer Bluemel (fnu)

Engineer Oskar Krause

Engineer Martin Schroeder

Engineer Hilmer Stottmeister

Engineer Oskar Wingerter

Subsection for Tail Units

25. Engineer Joachim Hartmann

Subsection for Controls

26. Engineer Max Kletsch

Subsection for the Installation of Engines

27. Engineer Hans Hoch

Engineer Heinz Kappe

Main Department for Fuselage Constructions

28. Engineer Johannes Haseloff

Engineer Hermann Esther

Engineer Kurt Stiller

Subsection for Fuselages

29. Engineer Franz Schubert

Engineer Joachim Stebel

Engineer Robert Thrommer

Engineer Kurt Wolff

Subsection for Cockpits

30. Engineer Helmut Leu



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Subsection for Landing Gears

31. Engineer Fritz Reusz
Leontev (fnu), Soviet assistant
Engineer Paul Goedicke

Engineer Goeldenring (fnu)

Subsection for Armament

32. Graduate Engineer Gustav Steuerlein

Department for Technical Manuals

33. Graduate Engineer Lothar Kindler Vlassov (fnu), Soviet assistant Engineer Georg Steib

Construction Office - Department for Breaking Point Tests

35. Graduate Engineer Richard Kahofer

Engineer Friedrich Gromes

Engineer Guenther Koscielny

Engineer Heinrich Wittkemper

Hydraulic Installations

35. Graduate Engineer Georg Du Bois

Kondratev (fnu), Soviet deputy

Engineer Jakob Antoni

Engineer Busse (fnu)

Engineer Werner Goerisch

Engineer Walter Haas

Engineer Schumacher (fnu)

Electric Installations

36. Engineer Otto Nagel

Krumbmiller (fnu), Soviet deputy

Engineer Kurt Boehme

Engineer Rudi Heimann

Engineer Alfred Keck

Engineer Fridolin Rieke

Engineer Wendolin (Wendslon) Zindel

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Department for Statics

37. Graduate Engineer Waldemar Guenter

Graduate Engineer Karl Aikele

Engineer Erwin Bruske

Engineer Kurt Grolle

Graduate Engineer Erwin Handke

Engineer Bruno Hartz

Graduate Engineer Josef Heisig

Graduate Engineer Erwin von Hilbert

Engineer Wolfgang Klar

Engineer Lammel (fnu)

Graduate Engineer Hans Mueller

Engineer Rudi Rockstroh

Engineer Karl Schlotmann

Graduate Engineer Hans Steinhard

Engineer Edward Walzel

Graduate Engineer Fritz Wolff

Engineer Hermann Wulff

Department for Special Equipment

38. Graduate Engineer Erwin Handke
Some of the Engineers listed under 37 above also worked in this department.
Source was not able to give the exact organizational set up.

Chief Engineers

39. Voznesenskiy (fnu)

Germanov (fnu), who worked under Director Smirnov, was absent from the plant for a short period while Rebenkov was director, and was back in this position in January 1952.

to Chief Engineer Voznesenskiy.

sections subordinated 25

25X1

Chief Mechanic

40. Kosakov (fnu), a Soviet

Central Laboratory

41. Graduate Engineer Heinz Eitner

Test Section for Materials

42. Graduate Engineer Heinz Eitner

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Physics and Electricity Laboratories

43. Graduate Engineer Arno Geertz

Workshop 16, Laboratory for Stability Tests

44. Gvozdev (fnu), Soviet
Friedmann (fnu), Soviet deputy of Gvozdev in January 1952
Pilot Ludwig Hoffmann

Chamber for Low Temperature Tests

45. Graduate Engineer Boris von Schlippe; this department was established in late 1951.

By January 1952, the sections listed under No. 40 to 45 were almost completely turned over to Soviet authorities.

Workshop 1, Machinability Testing

46. Marshevskiy (fnu), Soviet
Otto Hahn, turner
Nickel, fitter

Administration

47. Isotov (fnu), Soviet
Otto Horn, mechanic

Workshop 2, Fitting Shop

48. Pinyushin (fnu), Soviet
Friedrich (fnu), plumber
Herbert Zacher, fitter

Plumbing Shop

49. The name of the Soviet chief was not remembered

Graduate Engineer Karl Kuhnert

Plumber Gustav Kniestedt

Workshop 5, Assembly

50. Begma (fnu), Soviet chief
Otto Albrecht, fitter
Alfred Bertel, fitter
Otto Dueben, fitter
Engineer Helmut Froelich
Paul Hruschka, fitter

SECRET COST CONTROL SECURITY

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Dr. Werner Keller

Fritz Nagel, fitter

Engineer Petzke (fnu)

Engineer Paul Roehr

Karl Rust, Schlosser

Foreman Ernst Schlesiger

Foremen Walter Schoenemann

25X1

Richard Hackenberg, plumber

Ediger (fnu), carpenter

Workshop 4 for Hydraulic parts

51. This workshop cooperated closely with the laboratory for hydraulic and mechanical experiments.

Max Diener, mechanic

Paul Herling, aircraft mechanic

Pilot Fritz Horn

Walter Moses, aircraft mechanic

Rudolf Wendt, foreman

52. Other personnel of the construction offices of OKB I included:

Engineer Theo Bergmann

Engineer Egon Bordihn

Engineer Dietrich Harms

Engineer Koenig (fnu)

Engineer Siegfried Koenig

Engineer Fritz Paarsch

Engineer Fritz Riedel

Engineer Rothe (fnu)

Graduate Engineer Martin Schrecker

Engineer Rolf Wild

Engineer Wilhelm Woerle

Engineer Schreyer (fnu)

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53. Personnel of OKB II who were released but not suggested to be sent home included;

Graduate Engineer Werner Becker

Engineer Wilhelm Benz

Engineer Christen (fnu)

Dr. Heinz Dunken

Engineer Jochim Foellback

Willi Gokorsch

Paul Grothe

Engineer Helmut Heinsohn

Engineer Werner Heinze

Engineer Adolf Jensen

Karsten (fnu)

Koenen (fnu)

Franz Ladwig

Herman Meyer

Engineer Herbert Neumann

Graduate Engineer Gerhard Reck

Dr. Phil Gerhard Schmitz

Erich Steeck (Steeg)

Stoll (fnu)

Dr. Engineer Thielemann, W.

Graduate Engineer Herbert Ufer

Graduate Engineer Rudolf Weber

Dr. Heinz Wede (Wehde)

Engineer Paul Zuehlke

